

# Mineral Industry Surveys

---

**For information, contact:**

Micheal W. George, PGM Commodity Specialist  
U.S. Geological Survey  
989 National Center  
Reston, VA 20192  
Telephone: (703) 648-4962, Fax: (703) 648-7757  
E-mail: mgeorge@usgs.gov

Mahbood Mahdavi (Data)  
Telephone: (703) 648-7778, Fax: (703) 648-7975  
E-mail: mmahdavi@usgs.gov  
Wanda G. Wooten (Mine Data)  
Telephone: (703) 648-4980, Fax: (703) 648-7975  
E-mail: wwooten@usgs.gov

**Internet:** <http://minerals.usgs.gov/minerals>

## PLATINUM-GROUP METALS IN SEPTEMBER 2005

The price of platinum, according to Platts Metals Week, remained above \$900 per troy ounce and peaked at \$934 per troy ounce on September 20. The price surge that started in late July was believed to have been caused by the weakening of the U.S. dollar against major currencies. The price ended September at \$932 per troy ounce. The price of palladium continued to drop in the beginning of September, until mid-month when the price climbed to a 5-month high of \$203 per troy ounce on September 20. At the end of September, the price declined to \$196 per troy ounce, \$10 per troy ounce higher than the price at the beginning of September. With continued concerns about the supply of rhodium, the price reached a 13-year high of \$2,750 per troy ounce at the end of September. In contrast, the price of ruthenium remained unchanged, while the price of iridium increased \$5 per troy ounce to \$185 per troy ounce.

PolyMet Mining Corp. (Vancouver, British Columbia, Canada) announced that it purchased an ore processing facility in northeastern Minnesota. The former taconite plant will be used for processing NorthMet project ore from northeastern Minnesota, which includes cobalt, copper, gold, nickel, and platinum-group metals (PGMs) (PolyMet Mining Corp., 2005).

MMC Norilsk Nickel announced first-half 2005 production of PGMs from its Russian operations in the Taimyr and Kola Peninsulas. Norilsk produced 46,100 kilograms (kg) of palladium and 11,000 kg of platinum in the first half of 2005 and estimated that production for the rest of the year will be 47,000 kg of palladium and 11,000 kg of platinum. Norilsk announced that quarterly production reports and reserves information for PGMs would be available later in 2005 (MMC Norilsk Nickel, 2005).

An explosion occurred at the Anglo Platinum Limited (Johannesburg, South Africa) Polokwane smelter in Limpopo Province on September 7. The explosion was caused by the failure of a waffle cooler, which allowed water to leak into the furnace. Anglo plans to have the smelter back online by mid-December 2005. This incident was expected to cause Anglo to fall short of its planned production estimates for 2005 of 80,000 kg to 76,000 kg of PGMs (Anglo Platinum Limited, 2005a, b).

Aquarius Platinum Limited (Bedfordview, South Africa) and Impala Platinum Limited (Marshalltown, South Africa) have agreed on an expansion of the jointly owned Mimosa Platinum Mine in Zimbabwe. The expansion will increase production from 4,200 kg to 5,200 kg of PGMs at a cost of \$14 million. The completion date was set for May 2006, with full production to be reached by June 2006 (Impala Platinum Holdings Limited, 2005).

## References Cited

- Anglo Platinum Limited, 2005a, Anglo Platinum confirms Polokwane smelter shutdown: Johannesburg, South Africa, Anglo Platinum Limited media release, September 8, 1 p.  
Anglo Platinum Limited, 2005b, Polokwane smelter shutdown update: Johannesburg, South Africa, Anglo Platinum Limited media release, September 20, 1 p.  
Impala Platinum Holdings Limited, 2005, Aquarius and Impala Platinum Holdings Limited announce approval for low capital cost expansion at the Mimosa Platinum Mine: Marshalltown, South Africa, Impala Platinum Holdings Limited joint press release, September 21, 1 p.  
MMC Norilsk Nickel, 2005, MMC Norilsk Nickel announces palladium and platinum figures for 1st half of 2005: Moscow, Russia, MMC Norilsk Nickel press release, September 28, 1 p.  
PolyMet Mining Corp., 2005, PolyMet to gain ownership of Minnesota ore processing facilities: Vancouver, British Columbia, Canada, PolyMet Mining Corp. news release, September 14, 4 p.

TABLE 1  
PLATINUM-GROUP METALS PRICES<sup>1</sup>

(Dollars per troy ounce)

	Platinum	Palladium	Rhodium	Iridium	Ruthenium
2004:					
Low/date	771.00 May 10	180.00 Dec. 17	500.00 Jan. 5 and 6	87.00 Feb. <sup>2</sup>	41.00 Jan. 5 and 6
High/date	940.00 Apr. 19	340.00 Apr. 12	1,525.00 Aug. 9 and 10	230.00 Mar. and Apr. <sup>2</sup>	80.00 Nov. <sup>2</sup>
Average	848.76	232.93	983.24	185.33	64.22
2005:					
July:					
Low/date	863.00/5	174.00/5	1,850.00/7 and 8	170.00 <sup>2</sup>	76.00/1 and 5
High/date	900.00/29	197.00/22	2,090.00/14 and 15	175.00 <sup>2</sup>	85.00 <sup>2</sup>
Average	876.60	186.95	1,976.25	174.25	80.80
August:					
Low/date	889.00/16 and 19	183.00/22 and 30	2,000.00/1	175.00 <sup>2</sup>	85.00 <sup>2</sup>
High/date	917.00/12	195.00/2 and 3	2,175.00/31	180.00/31	85.00 <sup>2</sup>
Average	901.04	188.13	2,065.22	175.22	85.00
September:					
Low/date	900.00/1	184.00/12, 13, and 14	2,225.00/1	180.00 <sup>2</sup>	85.00 <sup>2</sup>
High/date	934.00/20	203.00/20	2,750.00/30	185.00 <sup>2</sup>	85.00 <sup>2</sup>
Average	918.10	191.24	2,472.38	182.38	85.00
Year to date:					
Low/date	847.00 Jan. 4	174.00 Jul. 5	1,330.00 Jan. <sup>2</sup>	145.00 Feb., Mar., and Apr. <sup>2</sup>	55.00 Feb. and Mar. <sup>2</sup>
High/date	934.00 Sep. 20	211.00 Mar. 4	2,750.00 Sep. 30	185.00 Sep. <sup>2</sup>	85.00 Jul., Aug., and Sep. <sup>2</sup>
Average	879.42	191.01	1,777.42	163.18	70.73

<sup>1</sup>Quotes from Engelhard Industries.

<sup>2</sup>Occured multiple days in month listed.

Source: Platts Metals Week.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM METAL, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Platinum grain and nuggets		Platinum sponge		Other unwrought platinum		Platinum, other		Platinum waste and scrap		Platinum coins	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2004	376	\$9,520	68,800	\$1,830,000	6,710	\$178,000	4,550	\$105,000	590,000	\$135,000	12	\$345
2005:												
June	1	18	8,350	232,000	170	4,820	472	7,250	2,790	12,400	1	13
July	13	354	4,990	140,000	164	4,510	334	7,010	1,940 <sup>r</sup>	17,700	1	17
August:												
Australia	--	--	--	--	--	--	--	--	--	--	4	132
Belgium	--	--	--	--	(2)	10	--	--	--	--	--	--
Brazil	--	--	95	2,630	--	--	--	--	--	--	--	--
Canada	1	37	--	--	--	37 <sup>3</sup>	986	3 <sup>3</sup>	51	--	--	--
China	--	--	--	--	--	--	--	--	9	300	--	--
Colombia	8	251	--	--	7	192	--	--	28 <sup>3</sup>	449	--	--
France	--	--	--	--	--	--	--	--	16 <sup>3</sup>	183	--	--
Germany	--	--	258	7,620	6	157	424 <sup>3</sup>	5,320	77 <sup>3</sup>	16	--	--
India	--	--	7	213	--	--	--	--	--	--	--	--
Ireland	--	--	--	--	--	--	(2)	5	--	--	--	--
Italy	--	--	5	146	16	453	--	--	--	--	--	--
Japan	--	--	--	--	17 <sup>3</sup>	188	(2)	10	76	2,640	--	--
Korea, Republic of	--	--	--	--	--	--	--	--	13	363	--	--
Malaysia	--	--	--	--	--	--	--	--	344	9,770	--	--
Mexico	--	--	--	--	--	--	--	--	132	79	--	--
Netherlands	--	--	--	--	--	--	5 <sup>3</sup>	58	--	--	--	--
Norway	--	--	62	1,780	--	--	--	--	--	--	--	--
Philippines	--	--	--	--	--	--	--	--	9 <sup>3</sup>	165	--	--
Russia	--	--	267	7,730	36 <sup>3</sup>	806	--	--	--	--	--	--
South Africa	16	439	2,810	80,100	--	--	--	--	--	--	--	--
Switzerland	--	--	--	--	--	--	6 <sup>3</sup>	90	--	--	--	--
United Kingdom	--	--	1,600	46,400	19	492	68 <sup>3</sup>	2,600	115	2,110	--	--
Total	25	727	5,110	147,000	101	2,300	540	9,070	824	16,100	4	132
Year to date	93	2,660	46,900	1,310,000	1,180	30,700	4,600	93,900	58,900	89,700	19	462

<sup>r</sup>Revised. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Less than ½ unit.

<sup>3</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Period and country	Unwrought palladium		Palladium, other		Iridium <sup>2</sup>		Unwrought osmium		Unwrought ruthenium		Rhodium <sup>3</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2004	106,000	\$786,000	20,700	\$145,000	3,230	\$18,000	75	\$421	18,800	\$35,900	13,200	\$397,000
2005:												
June	9,210	57,700	994	5,820	128	690	--	--	2,860	5,860	871	43,400
July	9,880	46,800	772	4,790	224	1,400	11	103	1,660	3,950	1,700	101,000
August:												
Belgium	12	70	--	--	--	--	--	--	--	--	13	901
Canada	63	540	--	--	--	--	--	--	--	--	--	--
France	--	--	4	14	--	--	--	--	--	--	--	--
Germany	56	329	5	28	22	116	--	--	363	983	28	1,800
Ireland	--	--	--	--	1	3	--	--	--	--	--	--
Italy	36	224	2	5	--	--	--	--	--	--	3	202
Japan	147	756	147 <sup>4</sup>	138	--	--	--	--	--	--	--	--
Norway	576	3,470	--	--	--	--	--	--	--	--	--	--
Russia	2,710	16,300	579	3,490	--	--	10	100	--	--	92	5,130
South Africa	1,850	11,200	--	--	41	214	--	--	1,330	3,170	701	41,300
Switzerland	--	--	45 <sup>4</sup>	349	--	--	--	--	--	--	--	--
United Kingdom	2,550	15,700	--	--	87 <sup>4</sup>	601	--	--	575 <sup>4</sup>	546	373 <sup>4</sup>	24,500
Total	7,990	48,500	782	4,030	151	934	10	100	2,270	4,700	1,210	73,800
Year to date	52,900	315,000	6,860	43,500	2,130	11,500	28	262	14,100	27,400	8,030	402,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms of iridium.

<sup>3</sup>Unwrought and other forms of rhodium.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 4  
U.S. EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY<sup>1</sup>

(Kilograms of metal content, unless otherwise specified)

Period and country	Platinum				Iridium, osmium, and ruthenium <sup>2,3</sup>				Rhodium <sup>2</sup>	
	Platinum <sup>2</sup>		waste and scrap		Palladium <sup>2</sup>		Value		Value	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2004	20,000	\$374,000	28,400	\$520,000	31,400	\$142,000	1,090	\$8,800	311	\$7,800
2005:										
June	1,790	36,400	2,400	44,600	2,520	11,000	40	303	33	1,830
July	1,530	37,400	2,580	43,900	2,060	8,400	72	594	33	2,540
August:										
Australia	7 <sup>4</sup>	92	--	--	19 <sup>4</sup>	170	--	--	--	--
Belgium	(5) <sup>4</sup>	13	--	--	1	8	--	--	--	--
Bolivia	--	--	--	--	--	--	--	--	(5)	8
Brazil	39	1,160	--	--	334	1,860	--	--	--	--
Canada	60 <sup>4</sup>	1,470	158	1,510	310 <sup>4</sup>	2,050	1	10	24 <sup>4</sup>	1,640
China	1 <sup>4</sup>	23	--	--	11	38	--	--	--	--
Colombia	(5) <sup>4</sup>	4	--	--	3	23	--	--	--	--
Denmark	1 <sup>4</sup>	8	--	--	5 <sup>4</sup>	55	--	--	--	--
Dominican Republic	--	--	--	--	2	16	--	--	--	--
Finland	1 <sup>4</sup>	12	--	--	--	--	--	--	--	--
France	2 <sup>4</sup>	37	--	--	24 <sup>4</sup>	112	--	--	--	--
Germany	454 <sup>4</sup>	11,500	65	1,330	195 <sup>4</sup>	897	--	--	--	--
Haiti	--	--	--	--	(5)	3	--	--	--	--
Hong Kong	48 <sup>4</sup>	1,140	--	--	45 <sup>4</sup>	171	6	46	--	--
Iceland	--	--	--	--	(5)	3	--	--	--	--
India	(5) <sup>4</sup>	6	--	--	--	--	--	--	1 <sup>4</sup>	188
Ireland	9 <sup>4</sup>	210	--	--	--	--	--	--	--	--
Israel	--	--	--	--	31 <sup>4</sup>	79	--	--	--	--
Italy	181	5,240	--	--	5	41	--	--	--	--
Japan	545 <sup>4</sup>	14,800	180	4,790	60 <sup>4</sup>	397	10 <sup>4</sup>	72	3	228
Korea, Republic of	4 <sup>4</sup>	73	11	76	7 <sup>4</sup>	25	--	--	--	--
Lebanon	--	--	--	--	--	--	--	--	(5) <sup>4</sup>	4
Liechtenstein	--	--	--	--	3	30	--	--	--	--
Malaysia	1 <sup>4</sup>	14	--	--	(5)	3	44	291	--	--
Mexico	8 <sup>4</sup>	190	--	--	4 <sup>4</sup>	41	--	--	(5) <sup>4</sup>	60
Netherlands	4 <sup>4</sup>	59	--	--	1	9	--	--	--	--
New Zealand	1 <sup>4</sup>	7	--	--	4	34	--	--	--	--
Norway	2 <sup>4</sup>	50	--	--	3 <sup>4</sup>	36	--	--	--	--
Philippines	1 <sup>4</sup>	12	--	--	(5) <sup>4</sup>	3	--	--	--	--
Romania	1 <sup>4</sup>	8	--	--	--	--	--	--	--	--
Singapore	2 <sup>4</sup>	45	--	--	3	24	3	16	--	--
Spain	1 <sup>4</sup>	8	--	--	6	43	--	--	--	--
Sweden	7 <sup>4</sup>	114	--	--	2	18	--	--	--	--
Switzerland	67 <sup>4</sup>	1,290	--	--	3 <sup>4</sup>	36	--	--	--	--
Taiwan	45 <sup>4</sup>	1,140	--	--	509 <sup>4</sup>	1,430	(5) <sup>4</sup>	3	--	--
Thailand	5 <sup>4</sup>	87	--	--	8 <sup>4</sup>	54	(5) <sup>4</sup>	6	--	--
Turkey	(5)	10	--	--	1 <sup>4</sup>	5	--	--	--	--
United Kingdom	231 <sup>4</sup>	4,540	1,350	29,000	732 <sup>4</sup>	2,410	3 <sup>4</sup>	44	--	--
Uruguay	--	--	--	--	15	71	--	--	--	--
Vietnam	1 <sup>4</sup>	7	--	--	--	--	--	--	--	--
Other	1	14	--	--	--	--	--	--	--	--
Total	1,730	43,300	1,770	36,700	2,350	10,200	67	489	28	2,130
Year to date	13,900	289,000	17,000	309,000	17,100	78,700	488	3,550	224	14,600

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>5</sup>Less than ½ unit.